ENVIRONMENTAL
NEWS

NHDES

Newsletter of the N.H. Department of Environmental Services

January/February 2001

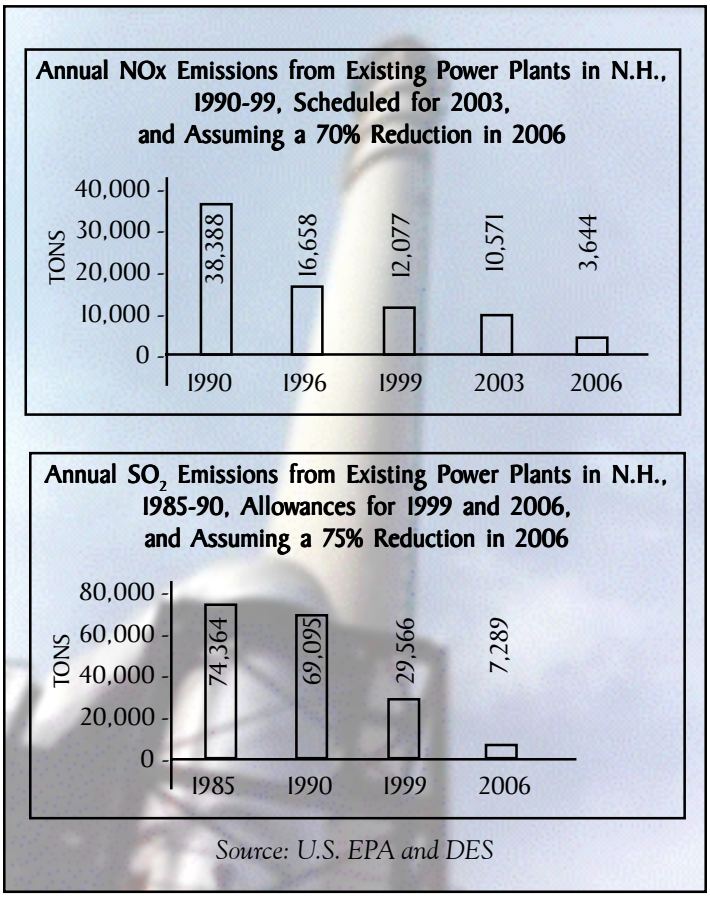
Governor announces clean power strategy

Aggressive strategy, legislation will reduce pollution from three fossil fuel power plants

On January 10, 2001, Governor Jeanne Shaheen, joined by environmentalists, public health advocates and legislators, announced an aggressive first-in-the-nation Clean Power Strategy that will push New Hampshire's three fossil-fuel power plants to make major reductions in the amount of pollution they emit.

At a press conference, Governor Shaheen said, "We are taking the next important step in cleaning up our environment, by tackling one of the biggest remaining sources of pollution, fossil-fuel power plants. I am committed to protecting the health of our citizens and the health of our environment by cleaning up New Hampshire's power supply and dramatically reducing the amount of pollution emitted by our aging fossil-fuel power plants."

At Gov. Shaheen's direction, DES developed a comprehensive Clean Power Strategy, which will make New Hampshire the first state in the nation to adopt an aggressive strategy to reduce the emission of multiple pollutants by fossil-fuel plants.



Source: U.S. EPA and DES

Under the new strategy, the state's three fossil-fuel power plants, Merrimack Station in Bow, Newington Station in Newington, and Shiller Station in Portsmouth, will have a five-year window to reduce their emissions of sulfur dioxide, the chief cause of acid rain, by 75 percent; nitrogen ox-

CLEAN POWER, *continued on page 8*

State launches private well testing initiative

DES encourages private well owners to periodically test their drinking water

DES Commissioner Robert Varney recently announced the agency's private well testing initiative, a public outreach effort urging owners of private drinking water wells to have their well water tested periodically for a variety of potential contaminants.

"Though the quality of groundwater in New Hampshire is generally very good," said Varney, "it is important that homeowners with private wells not have a false sense of security about their private drinking water supply. While most wells have good water quality, there are many private wells that are at risk from contamination by a variety of naturally-occurring and synthetic substances. In high quantities, these contaminants can pose a risk to human health."

PRIVATE WELLS, *continued on page 2*

PRIVATE WELLS, *continued from page 1*

Varney explained that over the next year DES's Private Well Initiative will focus on educating people about such dangers as radon, arsenic, and synthetic compounds like MtBE and other gasoline constituents, as well as about the importance of sampling private wells for these potential contaminants. He said that DES will be getting the word out in various ways.

Varney noted that two-thirds of the state's citizens get their drinking water from public water supplies, not from private wells. He explained that, unlike private wells, these public water systems are highly monitored to meet federal and state regulations. Health standards have been established for a variety of different substances, and testing and reporting requirements are routinely followed by the licensed public water supply officials who operate these facilities.

"For private well owners, however, potential health risks can remain unknown if they fail to take the prudent step of having their drinking water analyzed at a certified laboratory, either regularly or at least whenever they notice any changes in quality." Varney reiterated, "Groundwater can have high levels of radon and arsenic, two contaminants that occur naturally here in the Granite State. Wells can also become contaminated with solvents, volatile organic compounds contained in gasoline, and other synthetic chemicals when spills or leaks occur nearby." He explained that groundwater does not stay in one place. It migrates through porous sands and gravels and through cracks in bedrock, carrying any contaminants to nearby wells.

"While New Hampshire has made great strides in our spill prevention programs," Varney said, "contamination still occurs even in residential neighborhoods, and naturally occurring contaminants like radon and arsenic are present across the state. Testing is the only way to find out whether a given well has a problem."

In New Hampshire, there are about 200,000 private residential wells that provide approximately 35 percent of the population with its drinking water. Since state law doesn't require these wells to be tested, and since resources don't allow for State-funded testing of this great number of private wells, people are urged to do so by contacting the DES laboratory or a private certified laboratory.

"We suggest that residential wells be tested at several different milestones," said Varney. "First, well water should be tested soon after a well is first installed. Thereafter, it is recommended that testing be done every three to five years, every time there is a change in property ownership, and whenever changes in water quality are noticed, including changes in taste, odor, or color."

Varney explained that there is a battery of basic analyses that are typically conducted by laboratories. They include testing for bacteria, iron, manganese, nitrates, lead, copper, arsenic, radon, volatile organic compounds, and other constituents. Varney underscored that the mere presence of these contaminants in someone's well water doesn't imply that there's a problem. However, when the levels exceed state and federal health standards, people should take appropriate steps to correct the situation. Fortunately, contaminated water can often be treated by various methods, like aeration and carbon filtration, so that water is again rendered safe to drink.

For more information on DES's new private well initiative, or specifically on well testing, water treatment methods, or accredited laboratories, go to DES's web site at www.des.state.nh.us (see "What's New?" and click on "Private Well Testing"). Also, for printed materials, call DES's Public Information Center at (603) 271-2975. ■

R&R quarterly award goes to WRBP staff

The staff of DES's Winnipesaukee River Basin Program was recently honored with the agency's quarterly Rewards & Recognition Award. This marks the second time that an entire program staff has been recipient of this DES award.

The staff was recognized for its willing efforts in providing prompt technical assistance to the Air Monitoring Unit of the DES Air Resources Division. "Their timely response and specialized expertise" provided the Air Monitoring Unit the ability to properly install a new air quality monitor at DES's Laconia site. Such cooperation across division lines, while not unusual, is always commendable.

Congratulations to the Winnipesaukee River Basin Program staff! ■

ENVIRONMENTAL NEWS NHDES

Environmental News is a bimonthly publication of the N.H. Department of Environmental Services.

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State adopting tighter arsenic level for drinking water

Feds establish same standard as well

In a move designed to be more protective of public health, DES has begun rulemaking to adopt a new, tighter regulatory standard for arsenic in drinking water. The new state level will be 10 parts per billion (ppb), significantly more stringent than the previous state and federal arsenic standard of 50 ppb. This threshold will also serve as an action level for private well owners who wish to treat their drinking water so that it meets this health-based level. DES Commissioner Robert Varney said that this change is being made in collaboration with the N.H. Department of Health and Human Services (DHHS) which reviewed extensive data that underscored the need for the tighter level. He also noted that that U.S. Environmental Protection Agency (EPA) recently tightened the federal standard to 10 ppb as well.

"The State's proposal, consistent with the new federal standard, is designed to strengthen our state's safeguards for protecting public and private water supplies and the health of our citizens," said Commissioner Varney. He reiterated that the 10 ppb threshold will serve both as an action level for private well owners and an enforceable regulatory level for public water supplies. "This tightening recognizes the improved science associated with arsenic which shows more of a health concern than previously believed." Varney said that a number of risk assessment studies worldwide, cited by both DHHS and EPA, have shown arsenic to be associated with an increased risk of bladder, lung, kidney, liver, skin, and prostate cancer.

Arsenic is a poisonous chemical element that occurs naturally in many parts of the United States, including New Hampshire. It also occurs as a legacy of past human activities such as coal ash disposal and apple orchard spraying.

DES estimates that approximately 15 percent of the groundwater supplies in New Hampshire have arsenic concentrations that exceed this new state level. Most of these exceedences are in bedrock wells, often referred to as artesian or drilled wells.

If arsenic is found in a water supply, treatment is relatively straightforward. Either a reverse osmosis system or an adsorption system using activated alumina can be used. The cost for a private homeowner to install treatment systems ranges from about $800 for a point-of-use reverse osmosis system to $2,000 for a full-home activated alumina system.

For further information on arsenic, please contact DES at 271-3139 or 271-2975. Information is also available on fact sheets at www.des.state.nh.us/wseb. ■

Manchester completes first round to eliminate sewer overflows

Manchester has finished the first project in a $52 million program to eliminate 124 million gallons of sewage combined with stormwater that enters the Merrimack and Piscataquog rivers during major rainstorms.

In December, the city finished separating a combined sewer overflow (CSO) system off Theophile Street in west Manchester. This project eliminates 2 million gallons of sewage that formerly discharged in the Piscataquog River, a tributary of the Merrimack. This is the first of eight CSO separation projects the city will undertake over the next seven years as a result of a 1999 agreement with the U.S. Environmental Protection Agency (EPA) and DES.

CSO pipes carry both sewage flows and stormwater runoff. Overflows occur when the city's wastewater collection system, which carries both sewage and stormwater, exceeds its capacity, causing untreated sewage and stormwater to be discharged through these outfall pipes. The discharges occur after rainstorms or when snow melts.

The elimination of the Theophile Street overflow pipe will immediately improve the water quality in a part of the river with the greatest potential for recreation. Each step of the project that gets done will remove another pipe and more sewage from the Merrimack River, making Manchester's waterfront a cleaner and more attractive place. ■

DES issues *New Hampshire Dioxin Reduction Strategy*
Document a nationwide first

New Hampshire recently became the first state in the nation to create a strategy for reducing the release of dioxins into the environment. "With the release of the *New Hampshire Dioxin Reduction Strategy*," notes DES Commissioner Robert Varney, "New Hampshire takes a significant step to protect the public health of New Hampshire residents from these highly toxic compounds." He noted that DES's *Strategy* is the latest in a series of DES environmental and public health initiatives, including a similar strategy for mercury reduction which has shown remarkable success since its inception two years ago.

"As by-products of combustion," said Varney, "dioxins are a critical concern, especially since they can persist in the environment for years and work their way up the food chain. We were anxious to gain an understanding of how and where they are created in New Hampshire and decide on the best approaches for reducing them. The new strategy contains over 50 specific recommendations for reducing emissions at their sources."

The term "dioxin" refers to a family of highly toxic compounds that share certain similar chemical characteristics and common mechanisms of toxicity. Dioxin is a very potent toxicant that can produce a number of adverse effects in humans, including reproductive and developmental disorders, suppression of the immune system, and cancer. Although it is released into the environment in very minute quantities, dioxin builds up in soils, sediments and plants, bioaccumulates in animal and fish tissue, and is then passed up the food chain to people. As a result, it is estimated that for most people exposure occurs mainly through the diet, with more than 95 percent coming through dietary intake of animal fats.

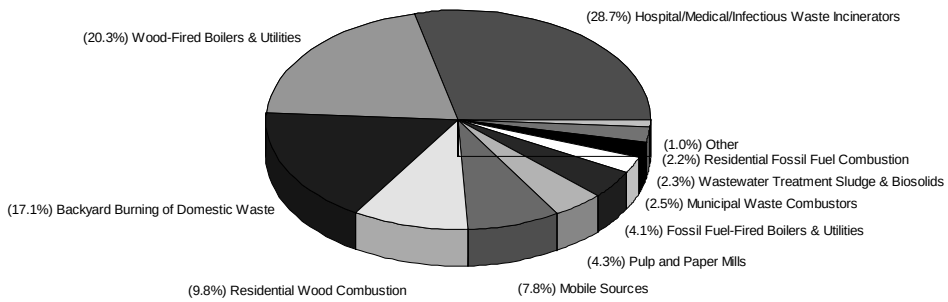
Dioxin is produced both naturally (from sources such as forest and wild fires) and as a by-product of a number of human activities, mainly, combustion processes. The *New Hampshire Dioxin Reduction Strategy* includes a comprehensive inventory of dioxin emissions and their sources in New Hampshire. Based on this inventory, and illustrated in the figure below, five source categories account for over 80 percent of the state's dioxin emissions. These sources are hospital/medical/infectious waste incinerators; wood-fired boilers and utilities; backyard burning of domestic waste; residential wood combustion; and mobile source fuel consumption.

"The *Strategy's* recommendations are extensive," said Varney. "Notably, they target certain types of facilities that generate significant amounts of dioxin, including hospital and medical waste incinerators whose operations will be phased out and replaced by other waste management methods such as recycling and sterilization techniques. Also, the *Strategy* recommends that all backyard burning of domestic waste in 'burn barrels' be eliminated." Varney noted that, as part of the strategy's implementation, a bill that would ban backyard trash burning has been initiated by DES and is currently before the state legislature.

Varney added, "We look forward to working with the Governor and Legislature to aggressively reduce dioxin emissions and improve public health in New Hampshire."

For more information on dioxin or the *New Hampshire Dioxin Reduction Strategy*, please contact Richard Rumba at (603) 271-1987. ■

Estimated Sources of Dioxin Emitted in New Hampshire
by Source Category, 1999



Source: N.H. Department of Environmental Services,
1999 Dioxin Emissions Inventory

Changes in funding criteria help to expand used oil collection

Last July, DES's Used Oil Collection Center Grant Program was improved by a legislative change that allows some motor vehicle inspection stations and non-profit businesses to apply for grants to collect used oil from people who change their own motor oil. A major goal of the program is to have a collection center readily available to all residents.

If a municipality is not interested in establishing or improving a collection facility, then private entities may take advantage of the grant in order to help serve this need. Currently, forty-three New Hampshire municipalities are without used oil collection centers. In an effort to recruit all "non-collector" municipalities into the grant program, letters were sent to those forty-three towns in November. The letter outlined the changes in the grant program and encouraged these towns to participate. If a town does not respond, then funding will be offered to the local motor vehicle inspection stations. To date, seven of the forty-three non-collectors have requested grant applications: Alexandria, Orford, Laconia, Alstead, Grantham, Plaistow, and Groton.

Other improvements to the program allow municipalities to apply grant monies toward the transportation costs when the collected oil is moved off site for recycling. Most importantly, grant awards are now available on an "annual" basis ($2,500 per year), rather than the former, one-time-only grant opportunity.

For more information on the Used Oil Collection Center Grant Program, please contact Tim Noury at (603) 271-6424 or toll free at 1-888-TAKEOIL. ■

Land & Community Heritage Investment Program grants available

The state's newly created land conservation and historic preservation program has progressed swiftly in developing a permanent framework from which to work. Now begins the next two important phases of its task: evaluating the first group of grant applicants and securing $12 million in LCHIP funding during the 2001 legislative session. Much has happened to get to this point.

In September, Governor Shaheen nominated 18 individuals to serve as the LCHIP Authority. The Authority met often through the fall to establish its by-laws; hold a series of five public meetings; construct the *Criteria, Guidelines, and Procedures* document that became the "nuts and bolts of the program"; hire an executive director; design and release the LCHIP application materials; and set a very ambitious goal of getting grant monies working on projects by the end of the 2001 legislative session.

The *Criteria, Guidelines, and Procedures*, which was officially adopted on December 14, constitutes the complete guidance document for municipalities, other political subdivisions, and qualifying organizations interested in applying for financial assistance from LCHIP. The entire 48-page document is available on the LCHIP web site at www.lchip.org/application.htm.

At the end of December, Rachel Rouillard, a graduate of Keene State College, was confirmed by Governor Shaheen and Executive Council as LCHIP's executive director. Rouillard, who has worked with the Metropolitan Area Planning Council in Boston for the past five years, also worked as a planner and urban designer for the City of Manchester, working on millyard and riverfront preservation projects.

The deadline for filing "eligibility applications" is February 12. Before any group can apply for a grant, it must first demonstrate eligibility based on LCHIP criteria. Once the applicant has received a successful eligibility determination from the executive director, an application for funding may be filed; the deadline is April 2. Applicants must be aware, however, that eligibility does not mean an automatic grant. By May, applicants will know if their special project will be funded.

Based on initial responses at the hearings, municipalities and non-profit organizations are enthusiastically embracing the goal of the new program. There are many special places in New Hampshire worthy of preserving—what if they all could be saved?

For more on LCHIP, contact Rachel L. Rouillard, Executive Director, N.H. Land and Community Heritage Investment Program Authority, PO Box 4206, Concord, NH 03302-4206; (603) 226-0012 (temp.); e-mail nhlchip@aol.com; or go to www.lchip.org. For information on Citizens for New Hampshire Land & Community Heritage, go to its web site at www.specialplaces.org. ■

The DES Land and Habitat Protection Team

by David Rousseau, Supervisor, Solid Waste Compliance Section

A variety of land and habitat protection efforts are conducted at DES. Their goal is to minimize the adverse impacts of human activity on uplands, wetlands, shorelands, lakes, rivers, estuaries and other sensitive habitats over which DES has jurisdiction, and to protect terrestrial and aquatic habitat and biodiversity throughout the state. In 1998, DES Commissioner Bob Varney established the Land and Habitat Protection Team to improve the coordination and effectiveness of DES's extensive efforts in the area of land and habitat protection. The development of the team comes at a time when New Hampshire is experiencing tremendous development pressure, and efforts to identify measures to facilitate land protection are increasingly important.

DES has a number of opportunities to engage in land and habitat protection. It is involved with regulating activities that can impact sensitive lands; it sometimes pursues land protection as mitigation for projects with adverse environmental impacts; and it sometimes uses land protection as partial compensation for violations of environmental laws. Also, DES owns and directly manages some lands, especially those associated with certain dams.

Participants of DES's Land and Habitat Protection Team represent a number of different groups within the agency. Accomplishments of the team include creating geographic information system (GIS) coverage for DES owned lands, developing common data fields for GIS inclusion, developing a model easement for land protection, developing minimum baseline data that describe parcels, obtaining baseline data for wetland parcels, developing criteria for accepting wetland mitigation parcels, and participating in the development of an "ecological reserve system." Future tasks to be undertaken by the team include reviewing potential supplemental environmental projects for various programs, improving linkage of DES efforts with those of other conservation/protection groups (for example, the New Hampshire Land and Community Heritage Investment Program Authority), and improving the stewardship of wetland mitigation parcels. ■

Did you know that DES ...

- Owns more than 10,000 acres managed by the DES Dam Bureau?
- Has protected over 3,100 acres of land held by local entities over the last 5 years?
- Has been instrumental in negotiating prime acquisition through negotiated settlements?
- Has a new Water Supply Lands Grant Program with current applications for projects that could protect over 2,000 acres of critical public water supply lands?

Protecting a rare ecosystem in Litchfield

Thanks to swift action by DES, in cooperation with others, the Grassy Pond area in Litchfield was purchased and permanently protected in the spring of 1998. Located on a coastal plain-pond shore ecosystem, the property supports habitat listed as "critically imperiled due to its extreme rarity," and it is home to several "very rare" species, including spotted and Blanding's turtles.

It is very sensitive to impacts from human activity, including septic systems, fertilizers, foot traffic, house pets, recreational vehicles, and yard waste, and in 1998 it was regarded as one of the highest ecological priority sites in New Hampshire. The danger of development of an adjacent 65 acres, within 180 feet of wetlands, was imminent, with bulldozers literally at the gate. Residential development and a school were slated for construction within the area when both the developer and the school district agreed to sell their respective properties to the State in order to preserve the area permanently.

The 107.7 acres were purchased by DES for $1.4 million, with 90 percent of the funding provided through the U.S. EPA Superfund program as a means to mitigate the loss of wetlands during the New Hampshire Plating Superfund Site Cleanup in Merrimack. DES, The Nature Conservancy, and the Town of Litchfield entered into a Natural Areas Protection Agreement (NAPA), a collaborative effort to manage and monitor the property. The agreement required the development of a management plan and for the parties to meet at least annually to review issues and plan for the future. ■

International climate change negotiations in The Hague end without agreement

Representing the national organization of state air directors – the State and Territorial Air Pollution Program Administrators (STAPPA), Ken Colburn, Director of DES's Air Resources Division, attended the international global climate change negotiations in The Hague, Netherlands in November 2000. Thousands of national delegates from almost two hundred countries – and thousands more members of the press and protesters – met for two weeks in the Dutch city at the "Sixth Conference of the Parties" (COP6) to the United Nations Framework Convention on Climate Change. (Note: the U.S. Senate has ratified this 1992 agreement.) The conferees' task was to hammer out how the Kyoto Protocol, the climate pact reached in Kyoto, Japan in 1997, will be implemented. Unfortunately, these negotiations ended without agreement.

Under the Kyoto Protocol, emissions from industrialized nations of the heat-trapping gases that are altering our climate (e.g., carbon dioxide, methane, nitrous oxide) are to decline to 5.2 percent overall below 1990 levels between 2008 and 2012. As part of the Kyoto negotiations, the United States agreed to reduce its emissions by 7 percent in this period, provided it could make use of carbon trading mechanisms and use forest and agricultural "sinks" (i.e., carbon storage) as credits against this reduction target. The Kyoto Protocol also created three carbon trading mechanisms. The U.S. regards the use of sinks and trading as an integral part of the "bargain" struck at Kyoto.

Talks broke down largely over what amount of credit from "sinks" the U.S. could claim. Follow-up efforts since COP6 by the U.S. State Department and European Union officials to work out their differences have not been successful. Since time is running short before the 2008-2012 deadline arrives, and global companies are getting impatient about what the compliance rules will be, the heat is on to reach agreement. As a result, COP6 may reconvene in May or June 2001, and COP7 has already been scheduled for November 2001 in Africa.

Although Colburn attended COP6 representing the nation's air directors, more states than ever also sent representatives, including Kentucky, Minnesota New Jersey, Ohio, Pennsylvania, and Virginia. State and local air pollution control officials have an interest in these climate talks because agreements determined at the federal level are usually delegated to state and local officials to actually implement. They are also concerned that emission reductions occur in the most practical and cost-effective manner possible, and that opportunities to reduce multiple pollutants at the same time are realized. ■

N.H. Project WET adds new environmental education resources to DES's website

Since 1997, the DES-sponsored N.H. Project WET (Water Education for Teachers) program has trained nearly 450 educators. In an ongoing effort to continuously support these educators as they use WET materials, DES recently unveiled an addition to its website which offers resources to supplement the *Project WET Curriculum and Activity Guide*. This addition can be found at www.des.state.nh.us/wet/.

According to Nicole Clegg, N.H. Project WET Coordinator, Project WET's effectiveness lies in its focus on training the trainer. "Project WET allows me to work with educators who can then introduce environmental topics to youth in an interactive way, on a more long-term basis," said Clegg. "My role is to give educators the background, resources, and skills they need to feel confident about investigating environmental issues with children." Clegg noted that Project WET projects are designed not only for school classrooms, but also for Scout meetings, 4-H programs, and other youth activities.

The new web resource is one tool that DES is offering to help educators become more comfortable with the water topics addressed by Project WET activities. By navigating the new web pages, educators can now find links to sites that provide more background information, additional activities and lesson plans, and on-line games and videos directly related to each of the more than 90 WET activities.

Much of the new information on the website helps make some of the nationally-developed activities more relevant to New Hampshire.

"My hope," says Clegg, "is that this additional information will make it easier for educators to use Project WET and, ultimately, make New Hampshire's water issues more exciting and relevant for students."

To learn more about Project WET, contact Nicole Clegg at 271-4071. ■

CLEAN POWER, *continued from page 1*

ides, the chief cause of ozone smog, by 70 percent; mercury, which poses a danger to human health and wildlife, by 75 percent; and carbon dioxide, which is a chief cause of the "greenhouse effect," by 7 percent below 1990 levels.

To meet these aggressive goals, New Hampshire will employ proven national market-based strategies for cost effectively reducing pollution.

Under the New Hampshire Clean Power Strategy, owners of New Hampshire's three fossil fuel burning power plants will be required to meet reduced emissions targets either by using new technology to reduce emissions, purchasing emissions credits, or through a combination of the two.

It is important to put this strategy into effect now before Public Service Company of New Hampshire's fossil-fuel power plants are sold. The Clean Power Strategy will allow potential bidders to know beforehand how much they will have to invest in cleaning up the power plants.

"New Hampshire is taking the lead on this issue nationally, and I urge other states to follow our example. The emissions of Midwest power plants are traveling downwind and damaging our air quality here in New Hampshire. I will continue to pursue our lawsuit against upwind polluters to make sure New Hampshire has the cleanest air possible," Gov. Shaheen said. "But if we want other states and power plants to work with us, we must be the model, and by implementing this strategy we will be."

To meet these aggressive goals, New Hampshire will employ proven national market-based strategies for cost effectively reducing pollution.

The New Hampshire Clean Power Strategy has attracted bipartisan support. Gov. Shaheen was joined by legislators from both parties, who have agreed to sponsor the New Hampshire Clean Power Act, legislation to implement the strategy. Rep. Jeb Bradley, chair of the House Science, Technology and Energy Committee, will be the bill's prime sponsor.

"It is crucial that we further reduce the pollution emitted by New Hampshire's three fossil-fuel power plants. But we must do so in a way that does not unduly increase costs and ensures diversity in New Hampshire's energy supplies," said Rep. Bradley. "The New Hampshire Clean Power Act achieves these goals." ■

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